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| 10/815,484 | 03/31/2004 | Brant L. Candelore | 80398P560 | 8521 |

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| EXAMINER | |
|---|---|
| GERGISO, TECHANE | |
| **ART UNIT** | **PAPER NUMBER** |
| 2137 | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/815,484 | CANDELORE ET AL. | |
| | Examiner | Art Unit | |
| | Techane J. Gergiso | 2137 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 22-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. In view of the Appeal Brief filed on April 13, 2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

2. Claims 1-20 and 22-23 are pending.

## *Claim Rejections - 35 USC § 112*

3. Claim 1 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1: line 7 recite, "wherein a connection between the core logic and first CA logic block is disabled **when descrambling of the incoming scrambled content is to be conducted according to the second CA function**."

Claim 11: line 8 recite, "**enabling only the first conditional access logic block of the plurality of conditional access logic blocks when the incoming scrambled content is scrambled according to the first CA function**."

*The instant application discloses the following for disabling CA logic and it is different from the specific limitation. "[0074] For instance, as shown in FIG. 6, logic blocks 655.sub.1 and 655.sub.2 are used and in communication with core logic 700.... However, logic block 655.sub.3 will not be used by the cryptographic block 565. Therefore, logic block 655.sub.3 is disabled using lasers to cut traces as shown, although destruction of gate connections, power and ground connections or the like may be performed for disablement purposes. A CableCARD implemented in this way might allow a service provider to switch from one CA provider to another CA provider with logic blocks supported by that same CableCARD."*

Furthermore as admitted by the applicant filed in page 4 of the Appeal Brief: "[L]ogic block 6553 will not be used by the cryptographic block 565. Therefore, logic block $655_3$ is disabled using lasers to cut traces as shown, although destruction of gate connections, power and ground connections or the like may be performed for disablement purposes. (Page 19, lines 22-27.) (Emphasis added.); and

A fifth input 760 is an input for an ENABLE signal that, when set, allows the configuration logic block $655_1$ to function. Otherwise, the configuration logic block 6551 is deactivated. The ENABLE input 760 may be used in lieu of, or in addition to, the destruction of traces and connections during manufacture. (Page 21, lines 4-9 of Applicants' specification.) (Emphasis added.) "

As it is evident from the disclosure and the applicant argument, the disclosure supports disabling a logic blocks using lasers or other methods. However, there is no enabling support for disabling a first CA logic block and relating to operation of a second CA logic block in such a way that or based on the condition of **when descrambling of the incoming scrambled content is to be conducted according to the second CA function,** as recited in claim 1 and **enabling only the first conditional access logic block of the plurality of conditional access logic blocks when the incoming scrambled content is scrambled according to the first CA function** as recited in claim 11.

## *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ansari et al. (US Pub No.: 2004/0221302) in view of Iwamura (US Pub. No.: 2003/0059047).

As per claim 1:

Ansari et al. disclose an apparatus adapted to a digital device, comprising: core logic;

a first conditional access (CA) connected to the core logic, the first CA using a first CA function associated with a first CA provider (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62); and

a second CA connected to the core logic, the second CA using a second CA function associated with a second CA provider (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62).

Ansari et al. do not explicitly teach the CA are logic blocks, a core logic and wherein a connection between the core logic and the first CA is disabled when descrambling of the incoming scrambled content is to be conducted according to the second CA function. Iwamura, in an analogous art, however teaches the CA are logic blocks, a core logic and wherein a connection between the core logic and the first CA is disabled when descrambling of the

incoming scrambled content is to be conducted according to the second CA function (0021; 0048; 0063; 0066; 0088). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Ansari et al. to include the CA modules are logic blocks, a core logic and wherein a connection between the core logic and the first CA is disabled when descrambling of the incoming scrambled content is to be conducted according to the second CA function. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to provide by a method and apparatus for conditional access functionality of a Point Of Deployment module (POD) and a solid state memory on a PC card for recording and playback of programming, as suggested by (Iwamura in 0007).

As per claim 2:

Ansari et al. disclose CableCARD coupled to a set-top box (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62).

As per claim 3:

Iwamura teaches an apparatus, wherein the core logic comprising:

a processor core (Figure 3: 270, 370);

a non-volatile memory accessible by the processor core, the non-volatile memory to contain information in a scrambled format, the information being recovered using the key contained in the secure non-volatile memory (figure 3: 358, 370).

a secure non-volatile memory accessible by the processor core, the secure non-volatile memory to contain a key (figure 3: 218, 214, 358, 370).

As per claim 4:

Ansari et al. disclose an apparatus, wherein the core logic further comprises a descrambler shared by the first CA logic block and the second CA logic block to descramble the incoming data (Page 2: 0021).

As per claim 5:

Iwamura disclose an apparatus, wherein each of the first CA logic block and the second CA logic block further comprises a descrambler to descramble the incoming data (figure 3: 218, 214, 358, 370).

As per claim 11:

Ansari et al. disclose an apparatus adapted to a digital device, comprising:

a plurality of conditional access coupled to the core logic and including a first conditional access and a second conditional access, the first conditional access using a first conditional access (CA) function associated with a first CA provider and the second conditional access using a second CA function associated with a second CA provider (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62);

Ansari et al. do not explicitly teach the CA modules are logic blocks, a core logic and wherein enabling only the first conditional access logic block of the plurality of conditional access logic blocks when the incoming scrambled content is scrambled according to the first CA function (0021; 0048; 0063; 0066; 0088). Iwamura, in an analogous art, however teaches the CA modules are logic blocks, a core logic and wherein a connection between the core logic and the first CA module is disabled when descrambling of the incoming scrambled content is to be conducted according to the second CA function. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Ansari et al. to include the CA modules are logic blocks, a core logic and wherein a connection between the core logic and the first CA module is disabled when descrambling of the incoming scrambled content is to be conducted according to the second CA function. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to provide by a method and apparatus for conditional access functionality of a Point Of Deployment module (POD) and a solid state memory on a PC card for recording and playback of programming, as suggested by (Iwamura in 0007).

As per claim 12:

Ansari et al. disclose an apparatus, wherein the core logic further comprises a descrambler shared by the plurality of conditional access logic blocks to descramble the incoming data (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62).

As per claim 13:

Ansari et al. disclose an apparatus, wherein each of the plurality of conditional access logic blocks further comprises a descrambler to descramble the incoming data (Page 2: 0021).

6. Claims 6-10, 14-19, 20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ansari et al. (US Pub No.: 2004/0221302) in view of Iwamura (US Pub. No.: 2003/0059047) in further view of Kocher et al. (US Pat. No.: 6, 289, 455).

As per claim 6:

Ansari et al. and Iwamura do not explicitly teach an apparatus, wherein the core logic further comprises a metal shield surrounding the processor core, the secure non-volatile memory and the non-volatile memory, the shield being made of a conductive material over which power is supplied to the secure non-volatile memory. Kocher et al., in an analogous art, however discloses the core logic further comprises a metal shield surrounding the processor core, the secure non-volatile memory and the non-volatile memory, the shield being made of a conductive material over which power is supplied to the secure non-volatile memory (Kocher et al. suggests making expensive for physically invasive attack; Column 6: lines 50-64). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Ansari et al. and Iwamura to include a secure non-volatile memory accessible by the processor core, the secure non-volatile memory to contain a key. This modification would have been obvious because a person having ordinary skill in the art would have been motivated by the desire to improve the security of systems used to distribute and protect digital content as suggested by Kocher et al. in (Column 5: lines 55-60).

As per claim 7:

Kocher teaches an apparatus, wherein the key is erased from the secure non-volatile memory if a supply of power is disrupted to the secure non-volatile memory due to tampering of the shield (Column 6: lines 50-64).

As per claim 8:

Ansari et al. disclose an apparatus, wherein the first and second CA logic blocks are one-time programmable logic devices (Figure 1: 50).

As per claim 9:

Kocher et al. disclose an apparatus, wherein the first and second CA logic blocks are field programmable gate arrays (Column 16: lines 1-5).

As per claim 10:

Ansari et al. disclose an apparatus, wherein the first CA function differs from the second CA function (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62).

As per claim 14:

Kocher et al. disclose an apparatus, wherein each of the plurality of conditional access logic blocks is a field programmable gate array (Column 16: lines 1-5).

As per claim 15:

Ansari et al. disclose an apparatus, wherein each of the plurality of conditional access logic blocks is a one-time programmable logic device (Figure 1: 50).

As per claim 16:

Kocher et al. teaches an apparatus, wherein each of the plurality of conditional access logic blocks is battery-backed so that disruption of power will cause all of the plurality of conditional access logic blocks to become inoperative (Column 25: lines 59-67; Column 26: lines 5-24).

As per claim 17:

Kocher et al. disclose an apparatus, wherein each of the plurality of conditional access logic blocks is a programmable logic device including programmable gates that are programmed at every power-up (Column 25: lines 59-67).

As per claim 18:

Kocher et al. disclose an apparatus, wherein the core logic comprises:

a battery-backed, non-volatile memory to contain a descrambling key (Column 25: lines 59-67; Column 26: lines 5-24); and

a descrambler coupled to the battery-backed non-volatile memory, the descrambler using the descrambling key to program the programmable gates of each of the plurality

of conditional access logic blocks (Column 25: lines 59-67; Column 26: lines 5-24).

As per claim 19:

Iwamura teaches an apparatus, being a network card connected to a set-top box (0021; 0048; 0063; 0066; 0088).

As per claim 20:

Ansari et al. disclose an apparatus adapted for coupling to internal circuitry of a digital device and for descrambling incoming scrambled content, comprising:

a programmable logic device including a plurality of programmable gates programmed to operate in accordance with a conditional access (CA) function associated with a first CA provider to descramble the incoming scrambled content (Page 2: 0018, 0021, 0023; Figure 1: 50, 52, 54, 62).

Ansari et al. do not explicitly teach the CA modules are logic blocks, a core logic (0021; 0048; 0063; 0066; 0088). Iwamura, in an analogous art, however teaches the CA modules are logic blocks, a core logic. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Ansari et al. to include the CA modules are logic blocks, a core logic. This modification would have been obvious because a person having ordinary skill in the art would have been motivated to provide by a method and apparatus for conditional access functionality of a Point Of

Deployment module (POD) and a solid state memory on a PC card for recording and playback of programming, as suggested by (Iwamura in 0007).

Ansari et al. and Iwamura do not explicitly teach the programmable gates of the programmable logic device are one-time programmable and battery-backed so that disruption of power will cause the programmable logic device to become inoperative. Kocher et al., in an analogous art, however the programmable gates of the programmable logic device are one-time programmable and battery-backed so that disruption of power will cause the programmable logic device to become inoperative (Figure 10: 1053). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Ansari et al. and Iwamura to include the programmable gates of the programmable logic device are one-time programmable and battery-backed so that disruption of power will cause the programmable logic device to become inoperative. This modification would have been obvious because a person having ordinary skill in the art would have been motivated by the desire to improve the security of systems used to distribute and protect digital content as suggested by Kocher et al. in (Column 5: lines 55-60).

As per claim 22:

Iwamura teaches an apparatus, wherein the core logic comprising:

a processor core (Figure 3: 270, 370);

a non-volatile memory accessible by the processor core, the non-volatile memory to contain information in a scrambled format, the information being recovered using the key contained in the secure non-volatile memory (figure 3: 358, 370).

Ansari et al. and Iwamura do not explicitly teach a secure non-volatile memory accessible by the processor core, the secure non-volatile memory to contain a key. Kocher et al., in an analogous art, however a secure non-volatile memory accessible by the processor core, the secure non-volatile memory to contain a key (Figure 2: 265) and a shield adapted to cover the processor core, the secure non-volatile memory and the non-volatile memory, the shield being made of a conductive material over which power is supplied to the secure non-volatile memory (Column 21: lines 5-20). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method disclosed by Ansari et al. and Iwamura to include a secure non-volatile memory accessible by the processor core, the secure non-volatile memory to contain a key and a shield adapted to cover the processor core, the secure non-volatile memory and the non-volatile memory, the shield being made of a conductive material over which power is supplied to the secure non-volatile memory. This modification would have been obvious because a person having ordinary skill in the art would have been motivated by the desire to improve the security of systems used to distribute and protect digital content as suggested by Kocher et al. in (Column 5: lines 55-60).

As per claim 23:

Kocher et al. disclose an apparatus, wherein the programmable gates of the programmable logic device are programmed at every power-up (Column 25: lines 59-67).

## *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See the notice of reference cited in form PTO-892 for additional prior art.

## *Contact Information*

8. Any inquiry concerning this communication or earlier communications from the examiner **should** be directed to Techane J. Gergiso whose telephone number is (571) 272-3784 and fax number is (571) 273-3784. The examiner can normally be reached on 9:00am - 6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. G

Techane Gergiso

Patent Examiner

Art Unit 2137

September 26, 2007

EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER